WHAT IS CLAIMED IS:

1. A semiconductor device, comprising:

a semiconductor substrate having a collector formed thereon;

an insulation film formed on said semiconductor substrate, said insulation film having an opening formed on a portion that corresponds to the collector;

a conductive film formed on said insulation film;

a semiconductor film formed inside the opening, a portion in contact with the collector of said semiconductor film being formed of single crystal, a portion in contact with said conductive film of said semiconductor film being formed of polycrystal, and the portion in contact with said conductive film being one to two times as thick as the portion in contact with the collector; and

an emitter formed on said semiconductor film.

2. A semiconductor device, comprising:

a semiconductor substrate having a collector formed thereon;

an insulation film formed on said semiconductor substrate, said insulation film having an opening formed on a portion that corresponds to the collector;

a semiconductor film formed inside the opening and on said insulation film, a portion in contact with the collector of said semiconductor film being formed of single crystal, and a portion of said

semiconductor film on said insulation film being composed of a single layer which is thicker than the portion in contact with the collector; and

an emitter formed on the portion in contact with the collector of said semiconductor film.

3. The semiconductor device according to claim 2, wherein said semiconductor film contains an amorphous portion.

4. The semiconductor device according to claim 1, wherein said semiconductor film is a film comprising at least a film selected from a group including an SiGe composed crystal film and an SiGeC composed crystal film.

5. The semiconductor device according to claim 2, wherein said semiconductor film is a film comprising at least a film selected from a group including an SiGe composed crystal film and an SiGeC composed crystal film.

6. The semiconductor device according to claim 1, wherein said conductive film is a film selected from a group including a polycrystalline silicon film and an aluminum film.

7. The semiconductor device according to claim 1, wherein said insulation film is a silicon oxide film.

8. The semiconductor device according to claim 2, wherein said insulation film is a silicon oxide film.

9. The semiconductor device according to claim 1, further comprising a second insulation film that

insulates between said conductive film and the emitter.

10. The semiconductor device according to claim 2, further comprising a second insulation film that insulates between the portion on said insulation film of said semiconductor film and the emitter.

11. The semiconductor device according to claim 9, wherein said second insulation film is a film selected from a group including a silicon oxide film and a silicon nitride film.

12. The semiconductor device according to claim 10, wherein said second insulation film is a film selected from a group including a silicon oxide film and a silicon nitride film.

13. A method for manufacturing a semiconductor device having a bipolar transistor, comprising the steps of:

forming a collector on a surface of a semiconductor substrate, and forming an insulation film on said semiconductor substrate;

forming a conductive film on said insulation film;

forming an opening in said insulation film and said conductive film, said opening exposing at least a part of said collector;

forming a semiconductor film by non-selective epitaxial growth inside said opening, said semiconductor film being connected to said collector and said conductive film; and

forming an emitter on said semiconductor film,

wherein, in said step of forming a semiconductor film, a portion in contact with said collector of said semiconductor film is formed of single crystal, a portion in contact with said conductive film is formed of polycrystal, and the portion in contact with said conductive film is one to two times as thick as the portion in contact with said collector.

14. The method for manufacturing a semiconductor device according to claim 13, wherein, in said step of forming said semiconductor film, a growth speed of the portion of polycrystal is less than or equal to 1.8 times as high as a growth speed of the portion of single crystal.

15. A method for manufacturing a semiconductor device having a bipolar transistor, comprising the steps of:

forming a collector on a surface of a semiconductor substrate;

forming an insulation film on said semiconductor substrate, said insulation film having an opening on a portion corresponding to said collector;

forming a semiconductor film by non-selective epitaxial growth inside the opening and on said insulation film, a portion in contact with said collector of said semiconductor film being functioning as a base of single crystal, and a portion on said insulation film of said semiconductor film being composed of a single layer which is

thicker than the portion in contact with said collector; and

forming an emitter on a portion in contact with said collector of said semiconductor film.

16. The method for manufacturing a semiconductor device according to claim 15, wherein, in said step of forming a semiconductor film, said semiconductor film is formed to contain an amorphous portion.

17. The method for manufacturing a semiconductor device according to claim 13, wherein as said semiconductor film, a film comprising at least a film selected from a group including an SiGe composed crystal film and an SiGeC composed crystal film is formed.

18. The method for manufacturing a semiconductor device according to claim 15, wherein as said semiconductor film, a film comprising at least a film selected from a group including an SiGe composed crystal film and an SiGeC composed crystal film is formed.

19. The method for manufacturing a semiconductor device according to claim 13, wherein as said conductive film, a film selected from a group including a polycrystalline silicon film and an aluminum film is formed.

20. The method for manufacturing a semiconductor device according to claim 13, wherein as said insulation film, a silicon oxide film is formed.

21. The method for manufacturing a semiconductor device according to claim 15, wherein as said insulation film, a silicon oxide film is formed.

22. The method for manufacturing a semiconductor device according to claim 13, further comprising a step of forming a second insulation film that insulates between said conductive film and said emitter.

23. The method for manufacturing a semiconductor device according to claim 15, further comprising a step of forming a second insulation film that insulates between the portion on said insulation film of said semiconductor film and the emitter.

24. The method for manufacturing a semiconductor device according to claim 22, wherein as said second insulation film, a film selected from a group including a silicon oxide film and a silicon nitride film is formed.

25. The method for manufacturing a semiconductor device according to claim 23, wherein as said second insulation film, a film selected from a group including a silicon oxide film and a silicon nitride film is formed.